ABSTRACT

The present invention improves a network forwarding device, such as a router, in a computer network system. When an address to which a received packet is to be forwarded is searched for based on path information, a path search data structure is changed to the one in which, in a 2-branch tree search in which a destination address of the received packet is checked, one bit at a time beginning at a highest-order bit, p (p is an integer equal to or larger than 2) levels are combined into one 2^p-branch tree to perform a search of the p levels of the 2-branch tree as a one-level search. This data structure speeds up path search processing.